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ABSTRACT

Holland's (1973) theory classifies occupations in terms of similarity to six ideal types (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional) by assigning each occupation a three-letter code. Holland codes were recently developed for all occupations in the "Dictionary of Occupational Titles." The code for some occupations changed substantially, but the consequences of these changes are not known. This study compared old and new Holland codes for 1,410 population scientists. Twenty-two separate occupational codes were required under both schemes. The Investigative type was the highest scale under both schemes. Changing from the old to the new scheme reduced average scores on Artistic and Social scales and increased average scores on Enterprising and Realistic scales. The validity of the two schemes against four criteria of research productivity was about equal, suggesting that the two coding schemes are about equally effective. Researchers can choose whichever scheme best meets their specific needs. Counselors may prefer the new scheme because it provides codes for many more occupations. (Author/NB)

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Abstract

Recently, Holland codes were developed for all occupations in the DOT. The code for some occupations changed substantially, but the consequences of these changes are unknown. This study compared old and new codes for 1410 population scientists. Twenty-two separate occupational codes were required under both schemes. Investigative was the highest scale under both schemes. Changing from the old to the new scheme reduced average scores on Artistic and Social and increased average scores on Enterprising and Realistic. The validity of the two schemes against four criteria of research productivity was about equal, so the two coding schemes appear about equally effective. Researchers can choose which ever best meets their specific needs. Counselors may prefer the new scheme because it provides codes for many more occupations.

An Empirical Comparison of Old and New Holland Occupational Codes

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Holland's (1973) theory classifies occupations in terms of similarity to six ideal types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. Specifically, occupations are classified in terms of three letter codes in which the first letter represents the type to which the occupation in question is most similar, (i.e, R = Realistic, etc.) the second letter represents the type to which that occupation is next most similar, and the third letter represents the type that is third in the similarity hierarchy.

Recently, Gottfredson, Holland, and Ogawa (1982) have extended this occupational classification to all job titles listed in the Dictionary of Occupational Titles. This extension provides a classification for a large number of occupations for which a RIASEC code previously was lacking. At the same time, substantial changes were made in the previous RIASEC codes for many occupations, and the consequences of these changes are unknown. The present study examines the impact of these changes on the average profiles of members of the Population Association of America (PAA), and compares the correlations of the old and new codes with five measures of research productivity.

The sample consists of 1410 population scientists who were members of PAA in both 1980 and 1985. The occupation of each scientist listed in the 1985 PAA Directory of members was classified in terms of both the old and new RIASEC codes. PAA members come from rather diverse occupations, and 22 different three-letter codes were needed under both coding schemes to classify all of the members' occupations.

The possible scores for a given occupation on a given scale ranged from 0 for scales that are not part of the three letter code to 3 for the scale for the first letter in the code. Table 1 summaries the mean and standard deviation on the six RIASEC scales for the two coding systems. Investigative is the first scale in the

Table 1

Mean and Standard Deviations on the RIASEC scales

	Old Codes		New Codes	
	Mean	S.D.	Mean	S.D.
Realistic	0.18	0.56	0.59	0.76
Investigative	2.23	0.96	2.56	1.01
Artistic	0.97	0.63	0.16	0.57
Social	2.15	0.88	0.83	0.81
Enterprising	0.31	0.82	1.72	0.76
Conventional	0.17	0.51	0.13	0.44

code under both schemes, a finding that appears generally consistent with expectations based on subjective impressions of population scientists, population journals, etc. Changes include substantial decreases in Artistic and Social, a small decrease in Conventional, a substantial increase in Enterprising, and a moderate increase in Realistic. The decrease in Artistic appears generally consistent with expectations, but the other changes neither clearly support nor clearly contradict expectations. Therefore, these results provide no clear basis for preferring one coding scheme to the other.

As a second step, occupational codes under the two schemes were correlated with four measures of the research productivity of these scientists for the years 1981-85, namely participating in the PAA Convention Program, being an author in the population journal Demography, serving as an editorial consultant to Demography, being cited in Population Index, and being listed as a Principal Investigator on a Federal Population grant (e.g. Public Health Service, 1982). Table 2 presents the

correlations. The time relationships among variables imply that these correlations are a mixture of concurrent validity and what might be called "postdictive" validity.

Table 2

Correlations of Occupational Scales with Productivity Criteria (N=1410)

Old Code	PAA Program Participant	Demography Author	Demography Consultant	Cited in Pop. Ind.	Population P.I.
Realistic	-.08**	-.07**	-.09**	-.06*	-.03
Investigative	.12**	.06*	.11**	.12**	.06*
Artistic	.08**	.05*	.10**	.07**	.04
Social	.00	.04	.08**	.01	.06*
Enterprising	-.10**	-.08**	-.14**	-.11**	-.09**
Conventional	-.08**	-.06*	-.15**	-.08**	-.09**
New Code					
Realistic	-.01	-.04	-.06*	-.05	-.04
Investigative	.12**	.09**	.13**	.12**	.11**
Artistic	.04	.03	.03	-.03	.00
Social	-.11**	-.06*	-.04	-.12**	-.06*
Enterprising	-.02	.00	-.03	-.01	.00
Conventional	-.07**	-.06*	-.10**	-.09**	-.09**

* $p < .05$ ** $p < .01$

All of these correlations are low, but because the number of cases is large many reach standard criteria for statistical significance. As should be the case, Investigative had the highest correlations under both coding schemes. The most notable change was a decrease in the (negative) correlations for Enterprising. The correlations for Artistic and Social also decreased or even changed from positive to negative. Nevertheless, no clear difference in validity emerged that would provide an unequivocal basis for preferring one scheme to the other.

These data imply that the two coding schemes are about equally effective. The results for the two codes also are similar enough to imply that it is appropriate to apply the main features of research based on the old scheme to the new scheme. In conducting research, therefore, an investigator could choose the coding scheme that best fits the project's specific objectives. For purposes of vocational counseling the new scheme probably is preferable because it provides codes for a much larger number of occupations.

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